

Title (en)

Aqueous cerium-containing solution having an extended bath lifetime for removing mask material

Title (de)

Wässrige ceriumhaltige Lösung mit einer verlängerten Badstandzeit zur Beseitigung von Maskenmaterial

Title (fr)

Solution aqueuse contenant du cérium ayant une durée de vie d'un bain étendue pour l'élimination de matériau de masque

Publication

EP 2592131 A3 20130612 (EN)

Application

EP 12192622 A 20121114

Priority

US 201113295677 A 20111114

Abstract (en)

[origin: EP2592131A2] An aqueous solution of a cerium (IV) complex or salt having an extended lifetime is provided. In one embodiment, the extended lifetime is achieved by adding at least one booster additive to an aqueous solution of the cerium (IV) complex or salt. In another embodiment, the extended lifetime is achieved by providing an aqueous solution of a cerium (IV) complex or salt and a cerium (III) complex or salt. The cerium (III) complex or salt can be added or it can be generated in-situ by introducing a reducing agent into the aqueous solution of the cerium (IV) complex or salt. The aqueous solution can be used to remove a mask material, especially an ion implanted and patterned photoresist, from a surface of a semiconductor substrate.

IPC 8 full level

C09K 13/04 (2006.01); **G03F 7/42** (2006.01); **H01L 21/311** (2006.01)

CPC (source: EP KR US)

C09K 13/04 (2013.01 - EP US); **G03F 7/42** (2013.01 - KR); **G03F 7/423** (2013.01 - EP US); **G03F 7/425** (2013.01 - EP US); **G03F 7/426** (2013.01 - EP US); **H01L 21/31133** (2013.01 - EP US)

Citation (search report)

- [XII] US 4725375 A 19880216 - FUJII TSUNEO [JP], et al
- [XAI] US 2001013506 A1 20010816 - CHAMBERLIN TIMOTHY SCOTT [US], et al
- [XAI] JP 2010153781 A 20100708 - HITACHI CHEMICAL CO LTD
- [XII] US 2011140181 A1 20110616 - AFZALI-ARDAKANI ALI [US], et al
- [XII] JP S5779174 A 19820518 - KONISHIROKU PHOTO IND
- [XII] JP 2002068741 A 20020308 - ASAHI KAGAKU KOGYO CO LTD
- [AP] WO 2012053497 A1 20120426 - NIHON PARKERIZING [JP], et al

Cited by

US9678430B2; US10176979B2; US9546321B2; US10392560B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2592131 A2 20130515; EP 2592131 A3 20130612; KR 20130054193 A 20130524; TW 201333643 A 20130816; US 2013123159 A1 20130516; US 8618036 B2 20131231

DOCDB simple family (application)

EP 12192622 A 20121114; KR 20120128986 A 20121114; TW 101142343 A 20121114; US 201113295677 A 20111114